

Fact Sheet



For General Permit Registration Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-MSWLGP-2011-10700121**

Application Received: **November 4, 2010**

Plant Identification Number: **03-054-107-000121**

Permittee: **Northwestern Landfill, Inc.**

Mailing Address: **510 East Dry Run Road, Parkersburg, WV 26104**

Physical Location: Parkersburg, Wood County, West Virginia
UTM Coordinates: 457.50 km Easting • 4344.37 km Northing • Zone 17
Directions: I-77 exit at US Route 50. Take US Route 50 East to East Dry Run Road.
Turn right and follow approximately 0.4 miles to landfill.

Facility Description

The Northwestern Landfill, Inc. (NAICS 562212, SIC 4953) is a 58-acre municipal solid waste landfill that began operation in 1975. Northwestern receives approximately 15,000 to 25,000 tons of waste per month. Waste is brought to the landfill by truck and dumped. The waste is spread and compacted. Soil is placed over the active area each day for cover. Northwestern has a design capacity of 4,366,860 Mg of which 931,000 Mg is inactive, 1,315,860 Mg has been capped and closed, 500,000 Mg is currently active, and 1,620,000 Mg for the future use.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions ⁶	2009 Actual Emissions ⁷
Carbon Monoxide (CO)	153.53	5.31
Nitrogen Oxides (NO _x)	27.51	0.04
Particulate Matter (PM ₁₀) ¹	37.55	Unavailable

Plantwide Emissions Summary [Tons per Year]		
Total Particulate Matter (TSP)	199.03	64.61
Sulfur Dioxide (SO ₂)	6.96	0.057
Volatile Organic Compounds (VOC)	25.54	21.65

Hazardous Air Pollutants ²	Potential Emissions	2009 Actual Emissions
Aggregate HAPs (excluding HCl) ³	14.43	13.53
Hydrogen Chloride (HCl) ⁴	5.5	Unavailable
Regulated Pollutants other than Criteria and HAP	Potential Emissions	2009 Actual Emissions
Carbon Dioxide	32,054	Unavailable
Methane	11,558	Unavailable
Hydrogen Sulfide ⁵	1.77	Unavailable

¹ PM₁₀ is a component of TSP.

² Some of the above HAPs may be counted as PM or VOCs.

³ There is no single HAP with a PTE greater than 10 tpy. The PTE for toluene is 5.178 tpy, for xylenes 1.836, and methylene chloride 1.714 tpy. All others are less than one (1) tpy. These are all components of landfill gas. The PTE was calculated using the USEPA LandGEM model.

⁴ Hydrogen Chloride is a HAP. Emissions of HCl from the facility are the result of combustion in the flare (LFG-1). The PTE for HCl is not included in the 14.43 tpy of HAPs associated with landfill gas emissions.

⁵ Hydrogen Sulfide currently is not a listed HAP. According to the U.S. EPA's website (<http://www.epa.gov/ttn/atw/pollutants/atwsmmod.html> accessed 3/16/2011), a clerical error led to the inadvertent addition of hydrogen sulfide to the Section 112(b) list of Hazardous Air Pollutants. However, a Joint Resolution to remove hydrogen sulfide from the Section 112(b)(1) list was passed by the Senate on August 1, 1991 (Congressional Record page S11799), and the House of Representatives on November 25, 1991 (Congressional Record pages H11217-H11219). The Joint Resolution was approved by the President on December 4, 1991. Hydrogen Sulfide is included in Section 112(r) and is subject to the accidental release provisions.

⁶ Potential emissions are transcribed from the application, and have changed since the last renewal in 2006. Changes in CO, NO_x, PM₁₀, TSP, SO₂, VOC, and HAPs are due to the tub grinder and two (2) diesel engines that have been removed from the facility, and a flare has been installed. Additionally, quantifying PM/PM₁₀/PM_{2.5} has improved with better information about the fugitive dust emissions associated with landfill operations. The PTE for PM (total) emissions was calculated to be approximately 199 tpy. PM₁₀ is a fraction of that total. AP-42 emission factors were used to calculate particulate emissions. The PTE for TSP was calculated using the same methodology that is used to calculate actual PM emissions for the annual air emission inventory. The maximum annual disposal rates and continuous operation of equipment were assumed for PTE.

⁷ Actual emissions transcribed from the 2010 CES Invoice, and represent emissions from January 1, 2009 through December 31, 2009.

Title V Program Applicability Basis

This facility has the potential to emit 153.53 tpy of carbon monoxide; is subject to 40 C.F.R. 60 Subpart WWW; and has design capacity greater than or equal to 2.5 million megagrams and 2.5 million cubic meters. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, being subject to 40 C.F.R. 60 Subpart WWW, and due to its design capacity, Northwestern Landfill, Inc., is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR11	Standby plans for emergency episodes.
	45CSR13	Permits to construct/modify
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR23	Emissions from Municipal Solid Waste Landfills
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for HAPs
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. 60 Subpart WWW	NSPS for Municipal Solid Waste Landfills
	40 C.F.R. 63 Subpart AAAA	NESHAPs-MACT for Municipal Solid Waste Landfills
State Only:	40 C.F.R. Part 82, Subpart F	Ozone depleting substances
	45CSR4	No objectionable odors.
	45CSR17	Control of Fugitive PM Emissions
	45CSR42	Greenhouse Gas Emissions Inventory Program

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the draft Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R13-2592B	September 13, 2010	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table B," which may be downloaded from DAQ's website.

Determinations and Justifications

- I. **Flare (Em. Unit ID: LFG-1).** The flare is mounted to a landfill gas vent. The purpose of the flares is to provide improved odor control at the facility. The flare is equipped with a solar panel and battery. A charge is stored in the battery that is connected to a spark plug. The spark ignites the combustible gas.

- a. **Particulate Matter Limits of NSR Permit R13-2592B, and 45CSR6 – CONTROL OF AIR POLLUTION FROM COMBUSTION OF REFUSE.** Both 45CSR6 and underlying NSR permit R13-2592B set an hourly particulate matter mass limit for the flare. What must be determined is which limit is more stringent. To perform the applicable calculation in 45CSR§6-4.1., the density (ρ in units of lb/ft^3) of the site's landfill gas must be known. According to technical correspondence¹, the typical density of the landfill's gas is 0.082 lb/ft^3 . The maximum hourly throughput² of LFG-1 is $180,000 \text{ ft}^3/\text{hr}$ (Q). Thus, the incinerating capacity of the flare is:

$$\dot{m} = \rho Q$$

$$\dot{m} = \left(0.082 \frac{\text{lb}}{\text{ft}^3}\right) \left(180,000 \frac{\text{ft}^3}{\text{hr}}\right)$$

$$\dot{m} = 14,760 \frac{\text{lb}}{\text{hr}}$$

Since the incinerating capacity is less than $15,000 \text{ lb/hr}$, the particulate matter emissions limit from 45CSR§6-4.1. will be calculated below with the factor F of 5.43.

$$\text{Emissions} \left(\frac{\text{lb}}{\text{hr}}\right) = F \times \left[\text{Incinerator Capacity} \left(\frac{\text{tons}}{\text{hr}}\right)\right]$$

$$\text{Emissions} \left(\frac{\text{lb}}{\text{hr}}\right) = 5.43 \times \left[\frac{14,760 \frac{\text{lb}}{\text{hr}}}{2,000 \frac{\text{lb}}{\text{ton}}}\right]$$

$$\text{Emissions} \left(\frac{\text{lb}}{\text{hr}}\right) = 40.1$$

The flare's hourly PM limit in condition 4.1.1.a. of permit R13-2592B is 1.53 lb/hr , which is more stringent than the limit of 40.1 lb/hr pursuant to 45CSR§6-4.1. Therefore, streamlining language has been written in the LFG-1 row of the general permit registration.

- b. **Visible Emissions Requirements of NSR Permit R13-2592B, and 45CSR6 – CONTROL OF AIR POLLUTION FROM COMBUSTION OF REFUSE.** Permit R13-2592B, condition 4.1.1.f. requires no visible emissions from LFG-1, except for periods not to exceed a total of five (5) minutes during any two consecutive hours. This NSR requirement is more stringent than those in conditions 5.1.2. and 5.1.3. of the general permit, which allow VEs up to 20% and 40%, respectively (under certain circumstances). The NSR permit does not set an opacity limit for the five minutes when VEs are permitted by it. Therefore, the requirements of general permit conditions 5.1.2. and 5.1.3. serve as the opacity limits during such five-minute periods. However, since the R13 permit limits the time period for visible emissions to five minutes, the opacity during

¹ Email dated April 15, 2011, from Mr. Adam Finley, P.E., District Engineer for the permittee.

² According to Attachment E of the renewal application.

start-up may only last for five minutes, rather than eight minutes as allowed by condition 5.1.3. The language in condition 5.1.3. regarding stoker operations does not apply to the flare. Therefore, streamlining language has been written in the LFG-1 row of the general permit.

II. Landfill Operations

- a. **40 C.F.R. 63 Subpart AAAA – NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: MUNICIPAL SOLID WASTE LANDFILLS.** As stated in the fact sheet for the general permit, this regulation applies to a facility that meets the criteria in either §§63.1935(a) or (b). This particular facility meets the criteria in §63.1395(a)(3), and is therefore subject to the regulation. Except for the proposed Phase 2 (Remaining) – Future Area (EU ID# 01-F1), all other landfill operations were constructed before November 7, 2000; therefore, these areas are not considered “new affected sources” for this regulation (§63.1940(b)). Except for 01-F1, the remaining affected sources are “existing” since they are not new (§63.1940(c)). For the following discussion in the table, the new affected source is 01-F1, and the existing affected sources are 01-C1, 01-C2, 01-C3, 01-C4, and 01-A1.

Section	Discussion
§63.1945(a)	This section applies to new affected sources, which will apply to the proposed Phase 2 (Remaining) – Future Area (EU ID# 01-F1).
§63.1945(b)	This section applies to existing affected sources, and sets the compliance date (which is in the past).
§§63.1945(c) and (d)	These sections do not apply to the facility since they pertain to major sources.
§63.1945(e)	This section applies to proposed 01-F1 since it will be considered a new affected source.
§63.1945(f)	This section applies to the existing affected sources.
§63.1947	This section does not apply since the facility does not have a bioreactor.
§63.1950	The facility is not subject to NSPS Subpart Cc; therefore, the language pertaining to this is not included. This section applies to both new and existing affected sources.
§63.1952	This section does not apply since the facility does not have a bioreactor.
§63.1955(a) §63.1955(a)(1) §63.1955(a)(2)	§63.1955(a) states that the permittee must comply with either (a)(1) or (2) of this section. §63.1955(a)(1) is applicable to the permittee since it is complying with NSPS Subpart WWW, and is included for both new and existing affected sources. §63.1955(a)(2) is not applicable since the facility is not subject to NSPS Subpart Cc.
§63.1955(b)	This section applies to both new and existing affected sources.
§63.1955(c)	This section does not apply since the permittee has not requested approval of any alternative elements listed in this section.
§63.1955(d)	This section does not apply since the facility does not have a bioreactor.
§63.1960	This section is applicable to both new and existing affected sources.
§63.1965	This section is applicable to both new and existing affected sources.
§63.1975	This section is applicable to both new and existing affected sources.
§63.1980(a)	This section is applicable to both new and existing affected sources.
§63.1980(b)	This section is applicable to both new and existing affected sources.
§63.1980(c)	This section does not apply since the facility does not have a bioreactor.

Section	Discussion
§63.1980(d)	This section does not apply since the facility does not have a bioreactor.
§63.1980(e)	This section does not apply since the facility does not have a bioreactor.
§63.1980(f)	This section does not apply since the facility does not have a bioreactor.
§63.1980(g)	This section does not apply since the facility does not add any liquids in a controlled fashion to the waste mass.
§63.1980(h)	This section does not apply since the facility does not have a bioreactor.

III. Miscellaneous Changes

- a. The Oil/Water Separator ID was changed from “3” to “3a & 3b” since there are actually two oil/water separators in the same location³.
- b. The lubricant tanks (4-B, 4-D) and Hydraulic Fluid Tanks (4-C, 4-E) were changed such that all are named “Lubricant Tanks” with emission unit IDs 4-B1, 4-B2, 4-B3, and 4-B4 since all of the tanks are on one mobile unit now⁴.
- c. The Antifreeze (5-A) and Hydraulic Oil (5-B) tanks have been removed from service since they are no longer needed; therefore, these units are not included in the renewal registration.
- d. The Mobile Fuel Tank (6-A, 6-B) has been removed from service and replaced by a new truck combining both fuel and lube on one unit (14A1 through 14A4).
- e. The Truck Wash (7) with two 1,600-gal sumps, one 500-gal sump, and one 200-gal fuel tank is changed to Water from Tire Wash (12A, B, C). According to technical correspondence⁵, this is the same unit with a new storage container, and the permittee has changed the identification numbers to be more specific in listing the components of the unit.
- f. Leachate sumps are identified as emission unit IDs 8, 9, and 10, in the current permit. They are changed to 6, 7, and 8, in the renewal.
- g. The Waste Oil tank is included in the renewal as emission unit ID 9. This tank is used with the Used Oil Burner (004).
- h. The 800-gal Diesel Fuel Tank (14B) came from the Mobile Fuel Tank after the addition of the new fuel/lube truck.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

1. **45CSR2 – TO PREVENT AND CONTROL PARTICULATE AIR POLLUTION FROM COMBUSTION OF FUEL IN INDIRECT HEAT EXCHANGERS.** This rule establishes particulate matter emission limitations discharged from fuel burning units. According to 45CSR§2-2.10., “Fuel Burning Unit means and includes any furnace, boiler apparatus, device, mechanism, stack or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat transfer.” According to Attachment E of the renewal application, the Used Oil Burner (Em. Unit ID: 004) is direct fired. Since this rule applies to units that produce heat by indirect heat transfer, the rule does not apply to the Used Oil Burner (Em. Unit ID: 004).

³ Email dated April 15, 2011, from Mr. Adam Finley, P.E., District Engineer for the permittee.

⁴ Email dated April 15, 2011, from Mr. Adam Finley, P.E., District Engineer for the permittee.

⁵ Email dated April 15, 2011, from Mr. Adam Finley, P.E., District Engineer for the permittee.

2. **45CSR10 – TO PREVENT AND CONTROL AIR POLLUTION FROM THE EMISSION OF SULFUR OXIDES.** The Used Oil Burner is direct fired and combusts liquid fuel, and is not a manufacturing process source operation. Therefore it does not meet the applicability criteria of 45CSR§§10-3 and 4. Even if it were indirectly fired, the unit would meet the exemption criteria at 45CSR§10-10.1. (<10 MMBtu/hr), and be exempt from requirements in sections 3, and 6 through 8, of this rule.
3. **40 C.F.R. 60 Subpart Kb – STANDARDS OF PERFORMANCE FOR VOLATILE ORGANIC LIQUID STORAGE VESSELS (INCLUDING PETROLEUM LIQUID STORAGE VESSELS) FOR WHICH CONSTRUCTION, RECONSTRUCTION, OR MODIFICATION COMMENCED AFTER JULY 23, 1984.** The facility does not have a storage vessel that meets the applicability criterion at 40 C.F.R. §60.110b(a) (i.e., capacity greater than or equal to 75 cubic meters (m³)); therefore, no storage vessel at the facility is subject to this subpart.
4. **40 C.F.R. Part 64 – COMPLIANCE ASSURANCE MONITORING (CAM).** The facility does not have a pollutant specific emissions unit with a control device to meet an applicable standard or limit. Therefore, the facility is not subject to the Compliance Assurance Monitoring (CAM) rule.
5. **Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule.** The facility has not made any changes that trigger a PSD modification; therefore, the requirements of the GHG tailoring rule are non-applicable.

Request for Variances or Alternatives

In technical correspondence⁶ the permittee requested that the alternative compliance requirements of condition 4.1.4. in the general permit R30-MSWLGP-2011 be specifically included in their registration statement. Therefore, this condition is specified for the landfill operations in the registration statement.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Title V General Permit has already been advertised and finalized. This fact sheet for facility registration is written for the file. This fact sheet states which rules are applicable to the particular facility and which rules are not applicable.

Procedure for Requesting Public Hearing

Not applicable.

Point of Contact

Denton B. McDerment, PE
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1221 • Fax: 304/926-0478

⁶ Email dated May 25, 2011, from Mr. Adam Finley, P.E., District Engineer for the permittee.

Response to Comments (Statement of Basis)

The permittee submitted a comment⁷ requesting that the Leachate Pond No. 1 (EU# 12-A, 750,000-gal capacity) and Leachate Pond No. 2 (EU# 12-B, 500,000-gal capacity) be removed from the registration statement since (i) there are no applicable requirements for the sources; and (ii) for consistency with the permittee's other Title V permits. This requested change has been made in the final registration. In the same correspondence, the permittee also commented that the solidification operation was not added. This writer reviewed the renewal application for the permit (as well as previous Title V permits and applications) and did not find any reference to a "solidification operation". Further, due to timing of the permittee's comment, it was too late to add a source to the registration. The permittee was notified⁸ that if a source should be added, it must be accomplished by submitting an appropriate modification application after the renewal permit registration is issued.

No comments were received from U.S. EPA during the comment period. EPA did ask⁹ whether there were any emissions associated with the leachate ponds that the permittee proposed to remove from the registration. In response, the permittee stated in technical correspondence¹⁰ that they have never had a reason to quantify emissions from the ponds, however, if they had to quantify the potential emissions they would be negligible keeping in mind that leachate is greater than 97% water.

⁷ Email dated July 7, 2011, from Mr. Adam Finley, P.E., District Engineer for the permittee.

⁸ Email dated July 21, 2011, from Denton McDermott, P.E., WVDAQ, to Mr. Adam Finley, P.E., District Engineer for the permittee.

⁹ Email dated July 21, 2011, from Mr. Mike Gordon, Environmental Engineer for U.S. EPA.

¹⁰ Email dated July 28, 2011, from Mr. Adam Finley, P.E., District Engineer for the permittee.